



Sri Lanka Institute of Information Technology

**Google Drive File Uploader and Google Photos Media Uploader
with OAuth 2.0 Framework
2021**

Secure Software Development 2021

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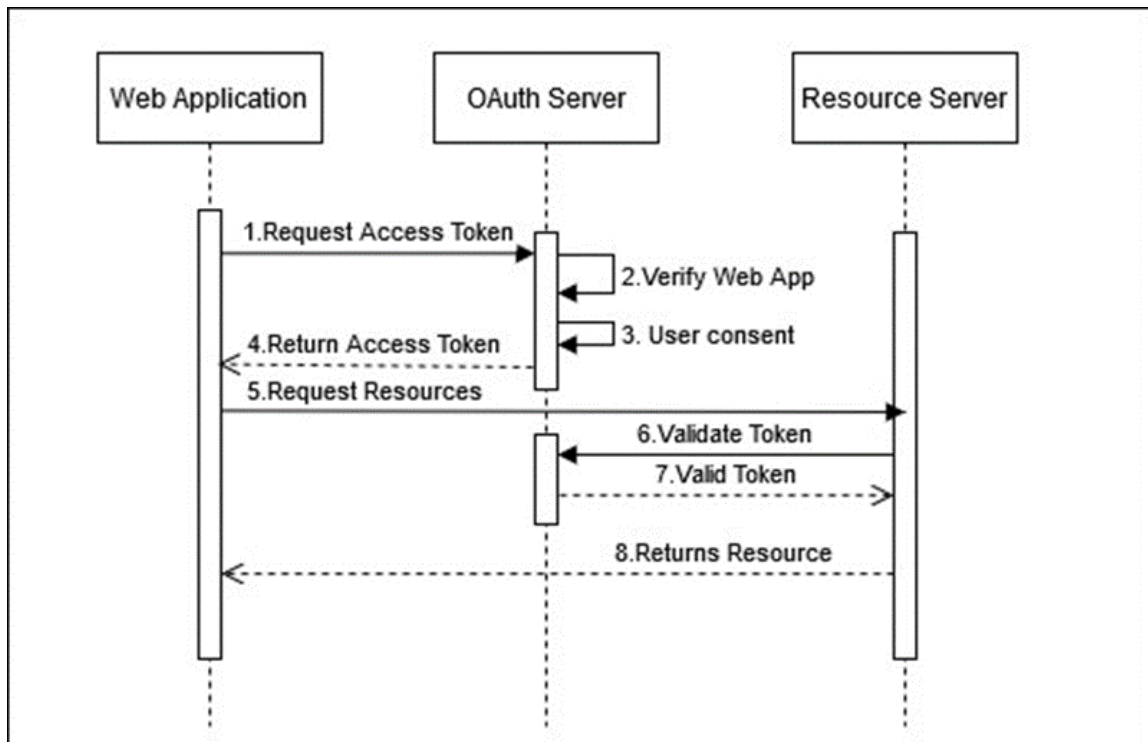
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1. Introduction

We discuss about utilization of Google OAuth 2.0 in this document. OAuth 2.0 protocol is used by Google APIs for authentication and authorization. We implemented Droogle third-party web application to upload resources in to the Google Drive and Google Photos. Therefore, it allows the user to access both Google Drive and Google Photos services through the Droogle third-party web application.

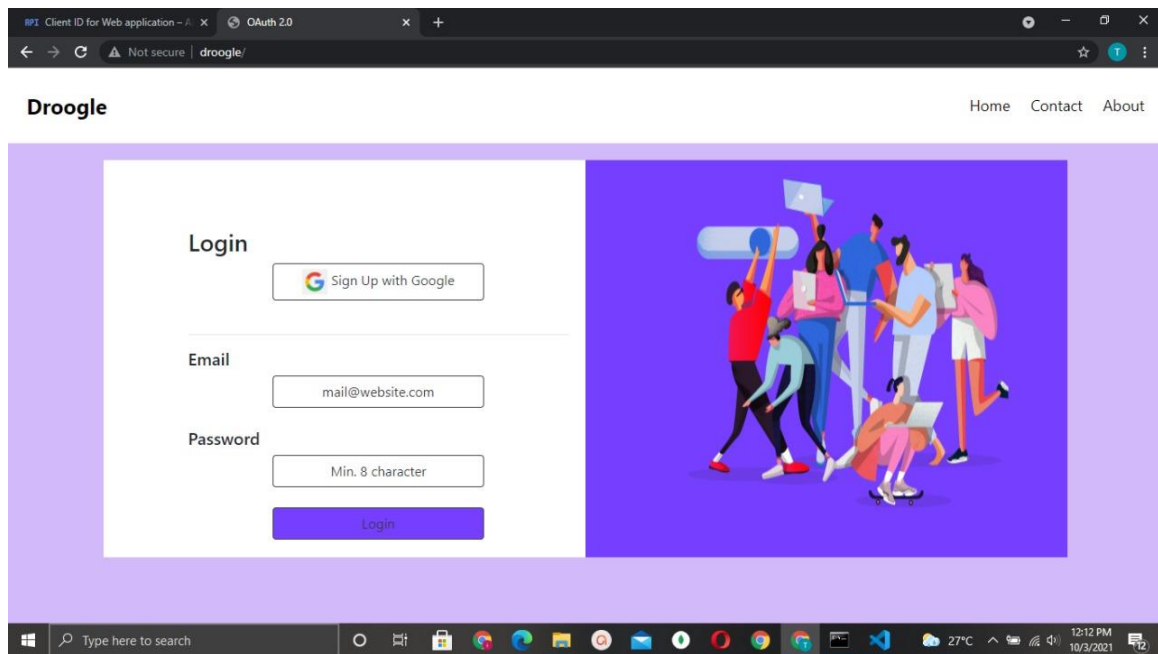
The authorization procedure is depicted in the diagram below. The web application first requests the OAuth server for an access token. The OAuth server then verifies the web application and the user's permission before returning the access token to the web application. The web application then requests resources from the resource server. After that, the resource server validates the token authenticity with the OAuth server, once the validity is confirmed, resource server returns the resource to web application.



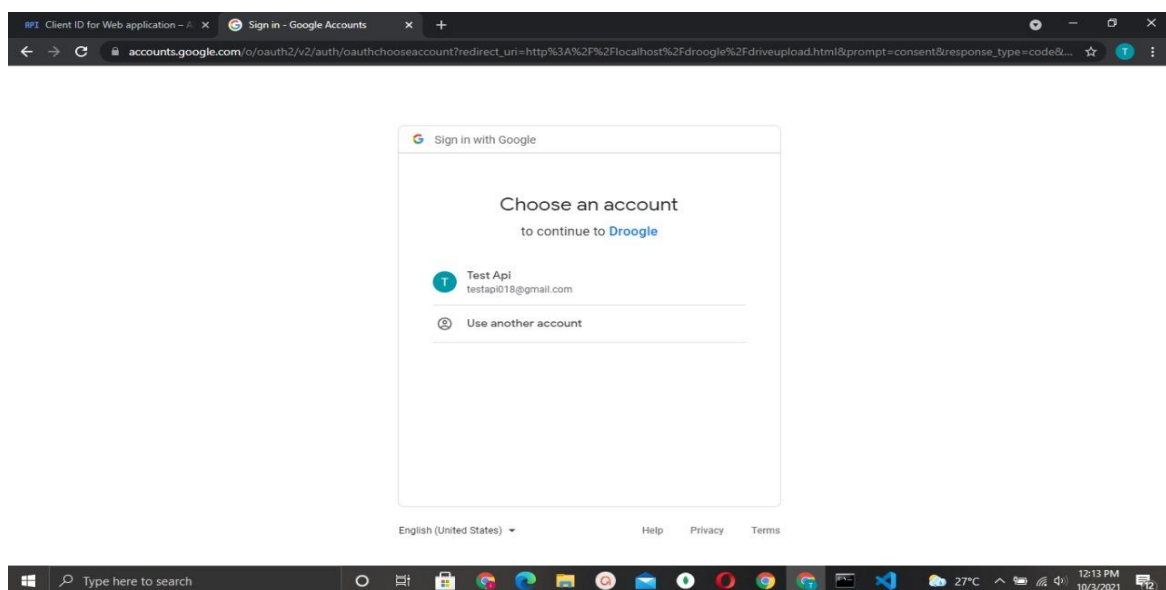
2. Implementation

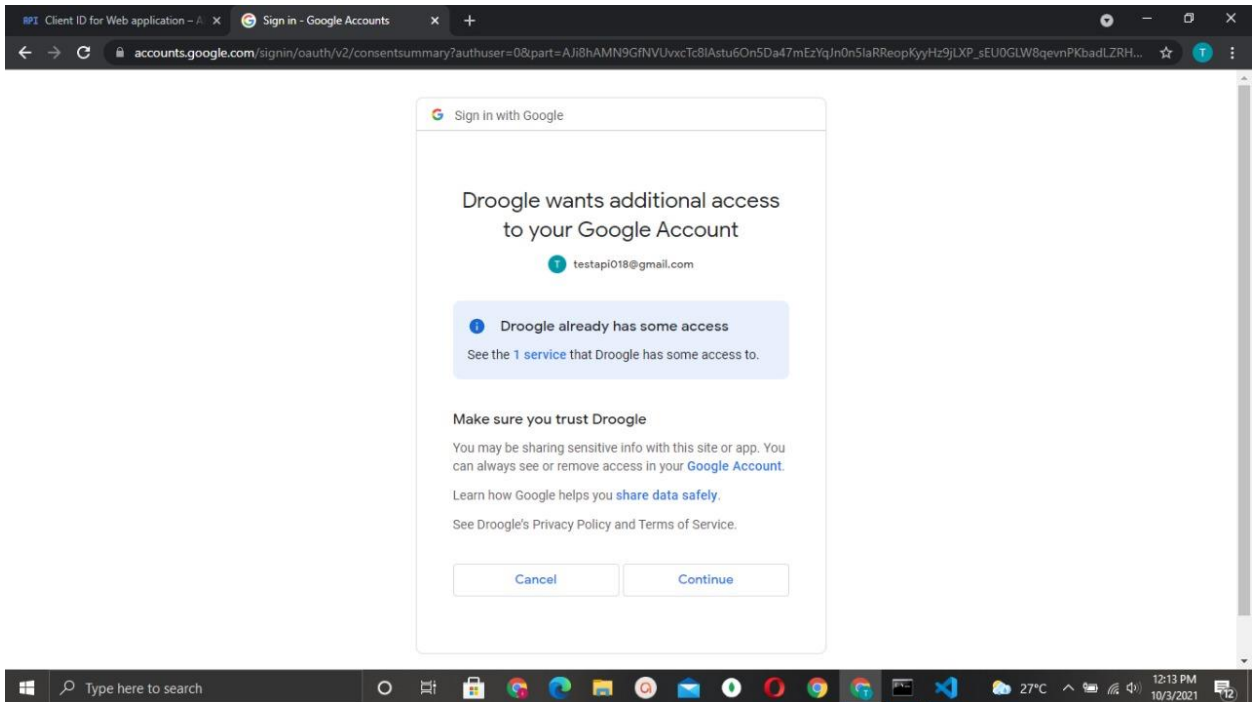
2.1 Process Flow

The following interface displays the main interface of the 'Droogle' third party web application. This is implemented using HTML / CSS and JavaScript. In this phase, the user can click the Sign Up button with Google to proceed.

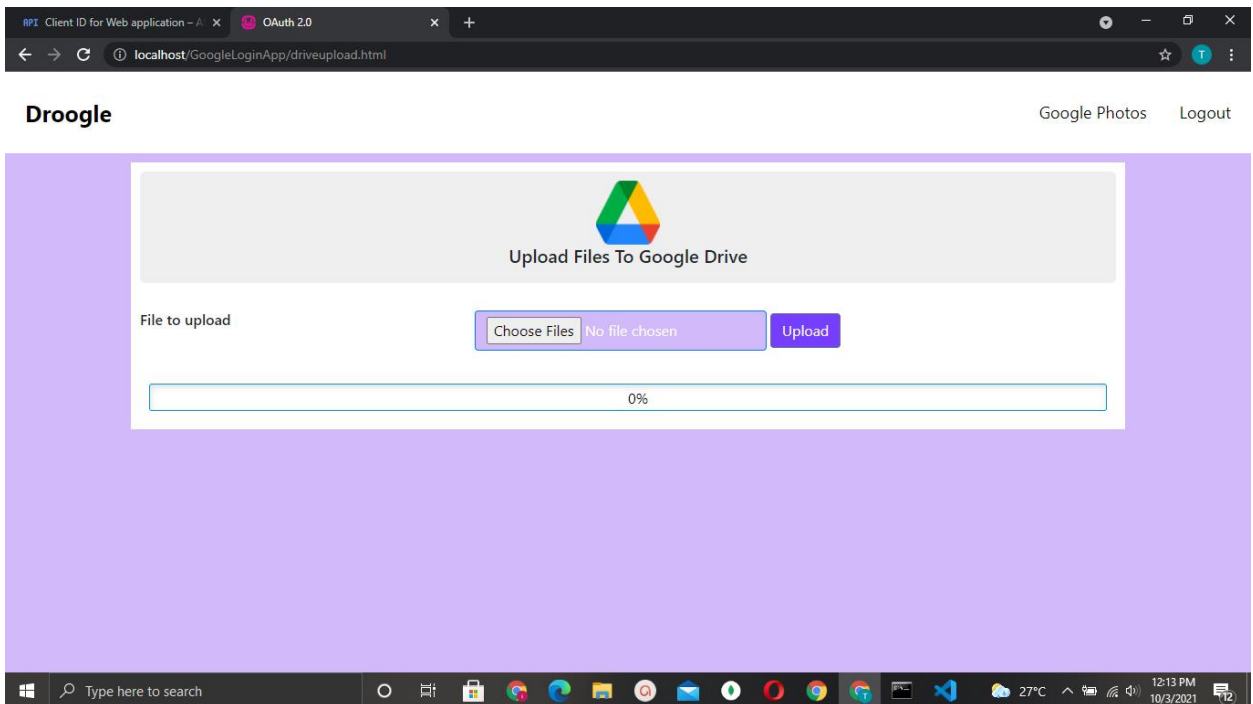


At this stage the user can select the desired mail address and continue the process.

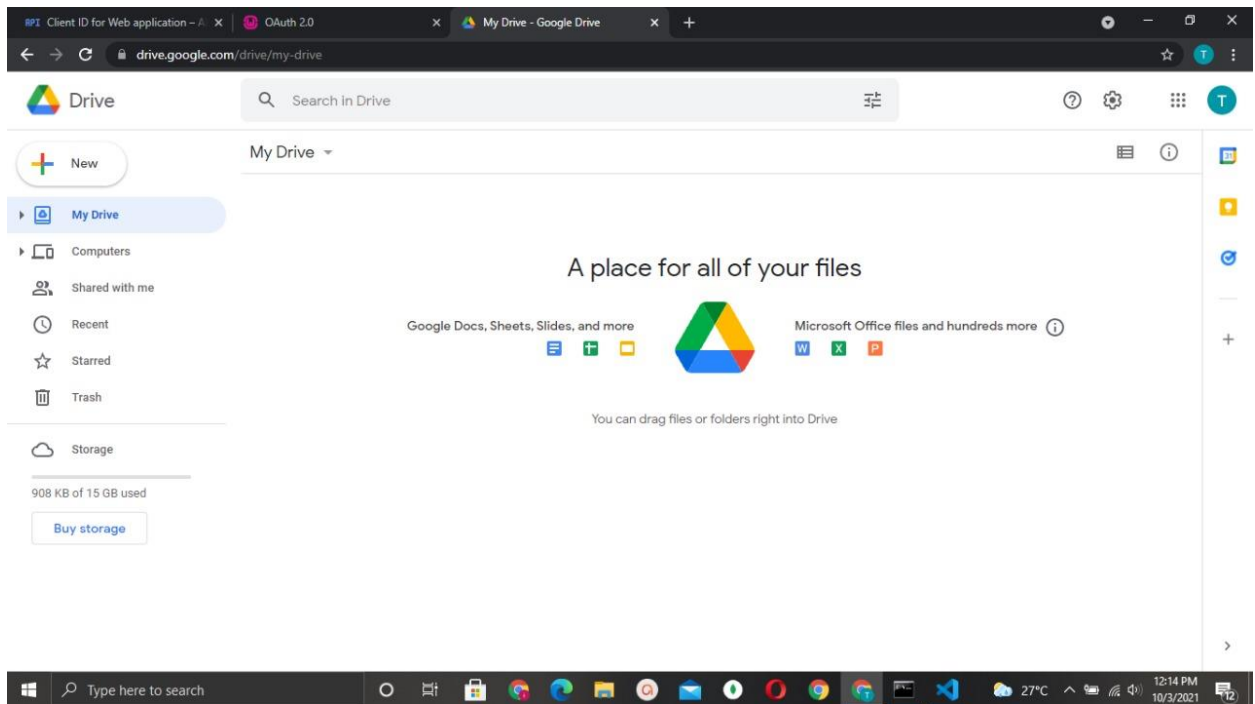




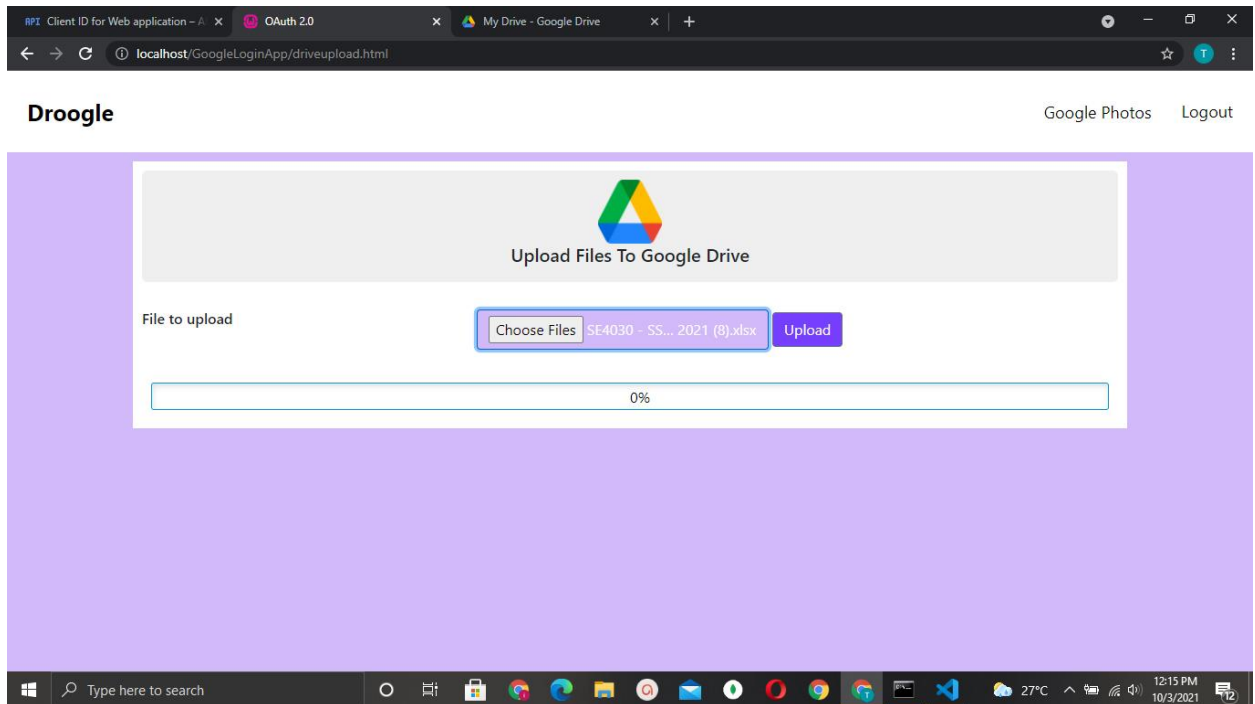
This page appears when the user enters the 'Upload Files to Google Drive' interface. Here, the user can select a document of their choice and upload it in Google Drive. Further, the user can access Google Photos using the 'Google Photos' button in the navigation bar.



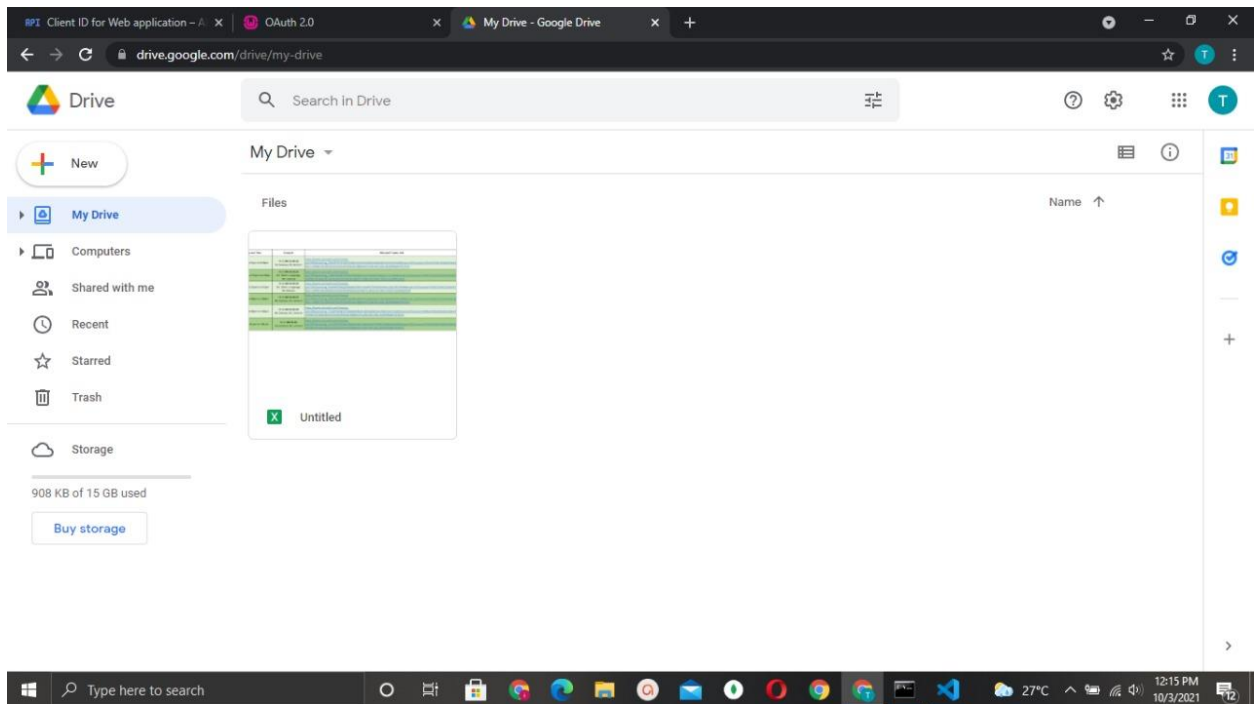
Here, we can see that no files have been uploaded to this Google Drive before.



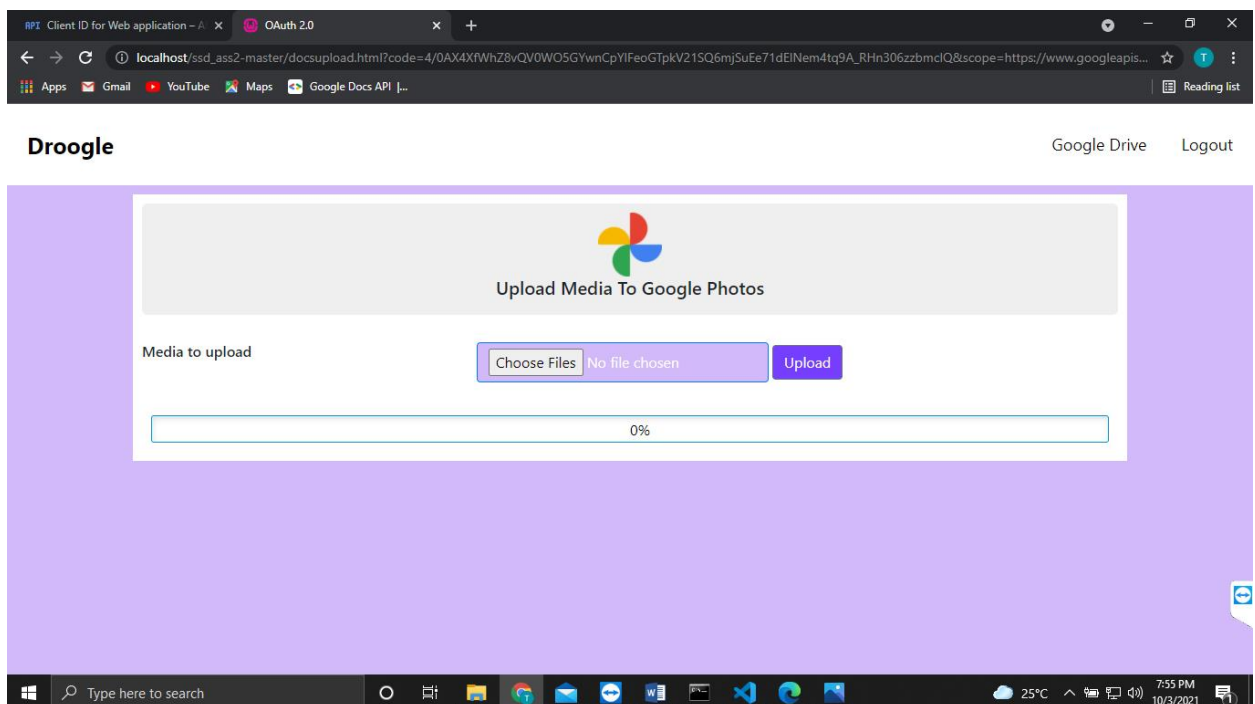
At this stage, we can choose a document and continue the procedure.



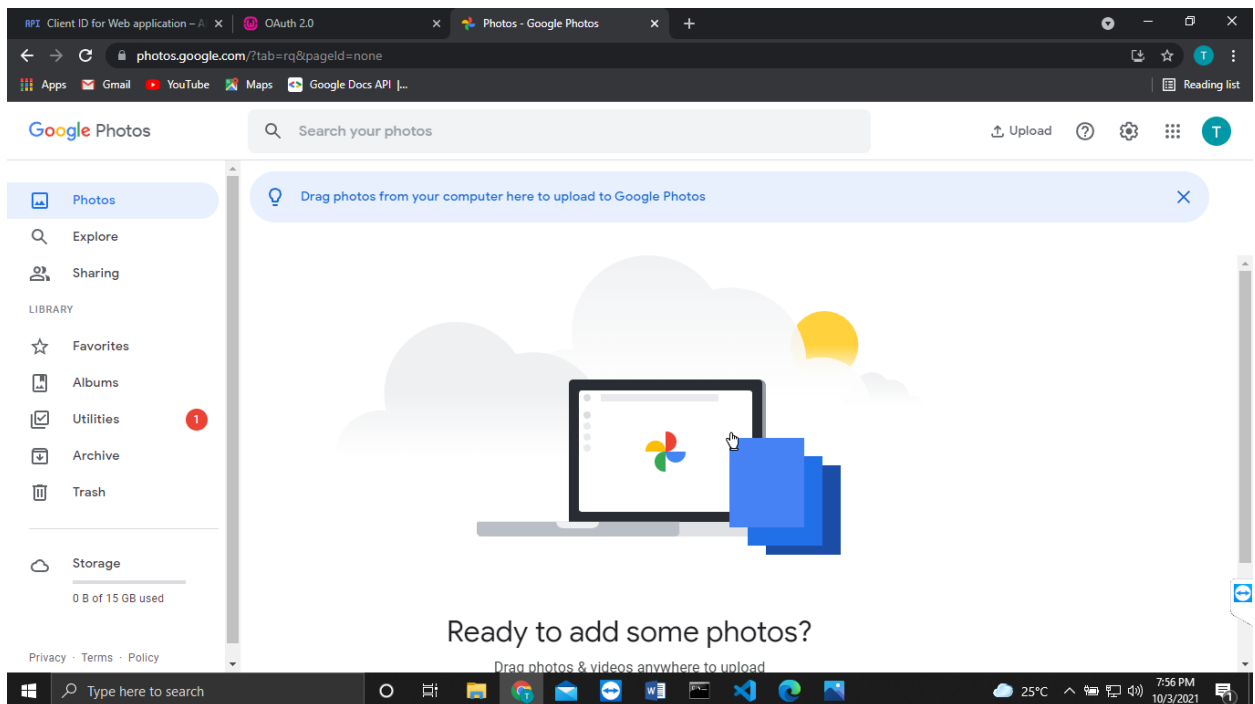
Go back to Google Drive to check whether the document we uploaded was successfully uploaded via the Droogle web application.



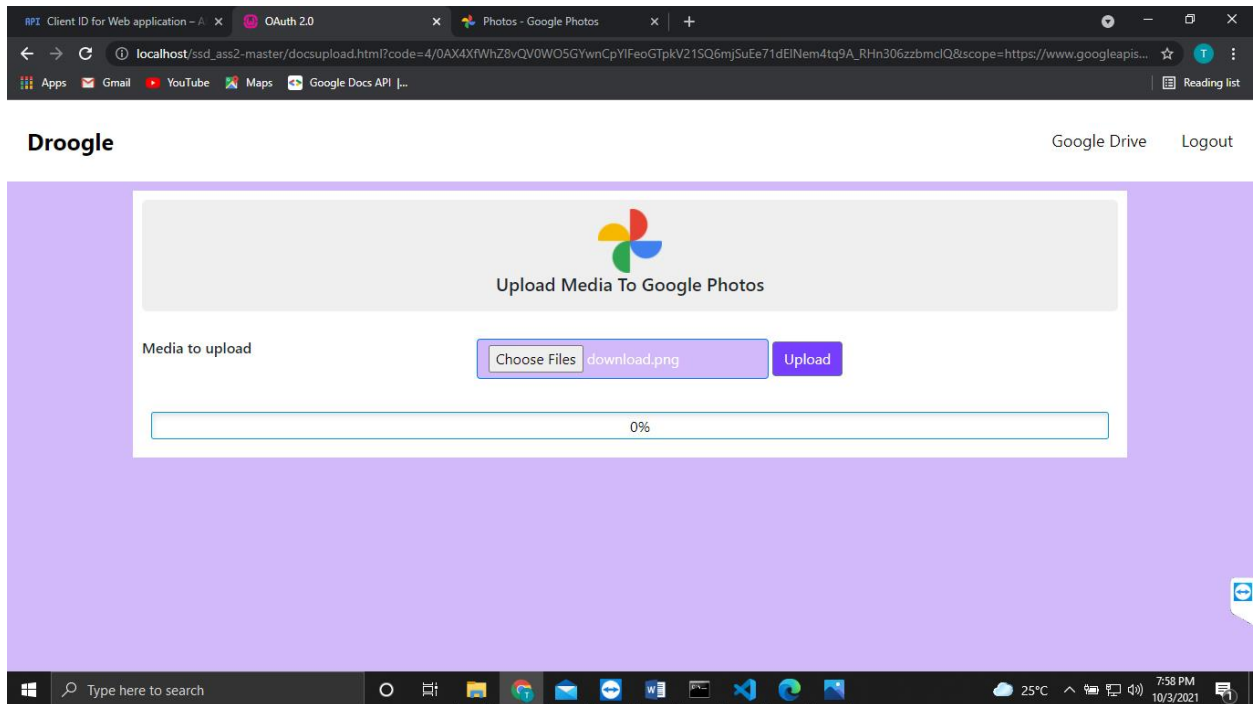
As mentioned earlier, if the user wants to access Google Photos at any time, they can easily access it by clicking the 'Google Photos' button in the navigation bar.



Here we can see that there are no uploaded media in this Google Photos account



From here we can select any media file to upload to our Google Photos account



Go back to Google Photos to check if the media file we uploaded was successfully uploaded via the Droogle web application.

